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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte EDWARD CHARLES SOUTHEY, TIMOTHY JOHN FORSYTH,
MARK PIPER, DAVID JOHN BUTT, PAUL MARTIN WALLINGFORD,
DANIEL JAMES GRIFFIN, JEREMY J. McKINLEY,
BENJAMIN JAMES HOOPER, MICHAEL CARL THELIN,
NICHOLAS MARK GYLES, and TIMOTHY T. JOYCE

Appeal 2019-000033
Application 13/795,087
Technology Center 2100

Before JOSEPH L. DIXON, SCOTT B. HOWARD, and SCOTT E. BAIN,
Administrative Patent Judges.

BAIN, *Administrative Patent Judge.*

DECISION ON APPEAL¹

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–11, 14, 15, 17–28, 31, 32, and 34–39, which constitute all claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies Conduent Business Services, LLC as the real party in interest. App. Br. 3.

BACKGROUND

The Claimed Invention

The invention relates to troubleshooting customer support issues. Spec. ¶ 1. The Specification explains that prior troubleshooting systems, such as a “question and answer model” or a “case-based reasoning” model, were “constrained by scope and size.” *Id.* at ¶¶ 3–4. The Specification describes the present invention as providing improved troubleshooting, including a “knowledge interface” that interacts with a “user-operated data processing system” in order to identify a solution to a problem or issue experienced by a customer, regarding a particular product or service. *Id.* at ¶ 6.

Claims 1, 18, and 35 are independent. Claim 1 is illustrative of the invention and the subject matter in dispute, and reads as follows:

1. An apparatus that interacts with a first data processing system operated by a user via networked communication *to identify a solution to problem or issue experienced by a customer* with respect to a particular product or service, the apparatus comprising:

a second data processing system configured to supply information to the user operated first data processing system, the information representing a number of *components that are graphically presented in a common display window* displayed by the user-operated first data processing system, wherein the components presented graphically to the user include:

i) *first data identifying* a plurality of predetermined *symptoms* linked to the problem or issue experienced by the customer, the plurality of symptoms being presented together as a listing of symptoms,

ii) *first interface* elements corresponding to each of the plurality of predetermined symptoms, the first interface elements configured to allow the user to selectively *assign* the

plurality of *symptoms* identified by the first data to a first class of symptoms representing symptoms most likely experienced by the customer, and the first interface elements are further configured to allow the user to selectively assign at least one other symptom identified by the first data to a second class of symptoms representing symptoms most likely not experienced by the customer, the first interface elements being presented together with their corresponding symptoms in the listing of symptoms,

iii) second *data* identifying a plurality of predetermined root *causes* linked to the plurality of symptoms identified by the first data, wherein the second data is *updated dynamically* in response to user input with respect to the first interface elements to show root causes linked to the plurality of symptoms that have been selectively assigned to the first class of symptoms as dictated by user input with the first interface elements, the plurality of root causes being presented together as a listing of root causes,

iv) second *interface* elements corresponding to each of the plurality of predetermined root causes, the second interface elements configured to allow the user to *selectively assign* the plurality of root causes identified by the second data to a first class of root causes representing root causes most likely experienced by the customer, and the second interface elements are further configured to allow the user to selectively assign at least one other root cause identified by the second data to a second class of root causes representing root causes most likely not experienced by the customer, the second interface elements being presented together with their corresponding root causes in the listing of root causes, and

v) third *data* identifying a set of *solutions* presented together as a listing of solutions, wherein the third data is updated dynamically in response to user input with respect to the first or second interface elements to show a best solution that is linked to the plurality of symptoms that have been selectively assigned to the first class of symptoms as dictated by user input with the first interface elements and to the plurality of root causes that have been selectively assigned to

the first class of root causes as dictated by user input with the second interface elements,

wherein the first data, the first interface elements, the second data, the second interface elements, and the third data are *displayed together in a plurality of distinct regions of the common display window* corresponding to respective first data, second data, and third data,

wherein the distinct regions are configured to *dynamically update in response to the user selectively assigning the plurality of symptoms* to the first class of symptoms and the user selectively assigning the plurality of root causes to the first class of root causes, and

wherein the plurality of distinct regions are *laid out together adjacent one another* across the horizontal extent of the common display window.

App. Br. 48–50 (Claims Appendix) (emphases added).

The Rejections on Appeal

Claims 1–11, 14, 15, 17–28, 31, 32, and 34–39 are rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

Ans. 35.²

Claims 1, 6–8, 14, 15, 18, 31, 32, and 35 are rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Skaaning et al. (US 6,535,865 B1; issued Mar. 18, 2003) (“Skaaning”), Rother (US 6,141,608; issued Oct. 31, 2000), Heckerman et al. (US 5,715,374; issued Feb. 3, 1998) (“Heckerman”), Microsoft Windows Version 3.1 (1992) (“Toastytech”),

² The Examiner designated the § 101 rejection as New Grounds in the Answer (at 34–36), and Appellant addressed the New Grounds in the Reply Brief (at 4–13).

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Spoto et al. (US 5,539,869; issued Jul. 23, 1996) (“Spoto”), and Yutkowitz (US 2003/033105 A1; published Feb. 13, 2003). Final Act. 6–29.

Claims 2, 4, 5, 11, 17, 19, 21–25, 28, 34, and 36 are rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Skaaning, Rother, Heckerman, Toastytech, Spoto, Yutkowitz, and Suda et al. (US 5,282,265; issued Jan. 25, 1994) (“Suda”). Final Act. 29–34.

Claims 3 and 20 are rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Skaaning, Rother, Heckerman, Toastytech, Spoto, Yutkowitz, and Oracle Data Mining Concepts (May 2008) (“Oracle”). Final Act. 34–35.

Claims 9, 10, 26, and 27 are rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Skaaning, Rother, Heckerman, Toastytech, Spoto, Yutkowitz, and Bender et al. (US 6,341,276 B1; issued Jan. 22, 2002) (“Bender”). Final Act. 35–37.

DISCUSSION

We have reviewed the Examiner’s rejection in light of Appellant’s arguments presented in this appeal. Arguments which Appellant could have made but did not make in the Briefs are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv). On the record before us, Appellant has persuaded us that the Examiner erred in rejecting the claims as obvious, but has not persuaded us of error regarding the subject matter eligibility rejection. We address the rejections in turn, below.

Rejection under 35 U.S.C. § 101

The Examiner determined that the claims are directed to “finding a solution to a problem or issue” (i.e., “troubleshooting”), which is a mental

process (or method of organizing human activity) and, accordingly, constitutes an abstract idea. Final Act. 2; Ans. 35; *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014) (describing two-step framework “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts”). Further, the Examiner found that the additional elements in the claims merely constituted conventional steps performed on a generic computer, and therefore did not include additional elements sufficient to amount to significantly more than the abstract idea. Ans. 36–46. Accordingly, the Examiner concluded that the claims constitute ineligible subject matter.

Appellant argues that the claims “are directed to specific improvements in the capabilities of computing devices” and, therefore, “do not merely embody an abstract idea.” Reply Br. 4; *see also* App. Br. 12–14. Specifically, Appellant argues that the claims are directed to a “particular manner of summarizing and presenting information graphically in a common display window.” Reply Br. at 6.

After the Briefs were filed and Answer mailed in this case, the USPTO published “Revised Subject Matter Eligibility Guidance” synthesizing case law and providing agency instruction on the application of § 101. *See* USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance* 84 Fed. Reg. 50 (Jan. 7, 2019) (“Guidance”). Under the Guidance, we must look to whether a claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of

organizing human activity such as a fundamental economic practice, or mental processes) (“Step 2A, Prong One”); and (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h)) (“Step 2A, Prong Two”).

See 84 Fed. Reg. at 54–55.

Only if a claim recites a judicial exception and does not integrate that exception into a practical application, do we then look to whether the claim:

(3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See id. at 56 (collectively “Step 2B”).

We begin our *de novo* review with Step 2A, Prong One of the Guidance, as applied to Appellant’s claim 1.³ Claim 1 recites an apparatus “to identify a solution to problem or issue experienced by a customer,” which we discern to comprise the following elements: (1) a “data processing system configured to supply information” (i.e., data) representing “components that are graphically presented;” (2) “data” identifying “symptoms;” (3) “interface elements” configured to allow a user to “assign”

³ The Guidance refers to “Step One” as determining whether the claimed subject matter falls within the four statutory categories identified by 35 U.S.C. § 101: process, machine, manufacture, or composition of matter. This step is not at issue in this case.

symptoms (data); (4) “data” identifying “root causes;” (5) “interface elements” corresponding to “root causes;” (6) “data” identifying “solutions;” (7) displaying “data” and “interface elements” together in a “distinct regions of the common display window;” (8) “dynamically updat[ing]” the display regions; and (9) “adjacent” distinct regions in the common display window. App. Br. 48–50. Upon review of the foregoing, we agree with the Examiner’s determination that the elements recited in claim 1 merely constitute the idea of troubleshooting a product using computers. Each of the foregoing elements either recites collecting data relating to a user problem, comparing such data to potential “solutions” for the problem (i.e., data processing), or displaying a step or results in the troubleshooting process. Accordingly, like the data collection and analysis in *Electric Power Group*, claim 1 recites a mental process, which is one of the categories of subject matter deemed abstract under the Guidance. *Electric Power Group, LLC, v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (“[W]e have treated analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category”); *id.* at 1353 (“[W]e have treated collected information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas.”).⁴

We next proceed to Step 2A, Prong 2 of the Guidance. Under this step, if the claim “as a whole” integrates the abstract idea into a “practical

⁴ Alternatively, the troubleshooting process recited in claim 1 may be characterized as a fundamental business practice or managing a business relationship, which are methods of organizing human activity deemed abstract under the Guidance. *See also Bilski v. Kappos*, 561 U.S. 593 (2010); *Alice*, 573 U.S. 208.

application,” it is patent eligible. Appellant argues that claim 1 recites “an improved user interface for electronic devices.” Reply Br. 11; *see also* App. Br. 20 (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014)).

Improving the functioning of a computer can reflect integration of an idea into a “practical application.” Guidance Section III; *see also* *DDR*, 773 F.3d 1245; *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016). Appellant, however, does not explain, and we do not discern, any improvement in technology from the claimed invention. *Compare* *DDR*, 773 F.3d at 1258 (Fed. Cir. 2014) (“the claims at issue here specify *how* interactions with the Internet are manipulated to yield a desired result—a result that overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink.”) (emphasis added); *see also* *Bascom*, 827 F.3d at 1350 (“harness[ing a] technical feature of network technology in a filtering system” to customize content filtering).

The claims in *DDR*, for example, were “necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks,” *see, e.g.,* *DDR*, 773 F.3d at 1257, but Appellant’s claim 1 recites a troubleshooting system that merely uses generic computing elements. *See* Spec. ¶ 39 (“browser-based desktop interface served by customer relationship management platform [] that allows a respective call center representative to log into the platform” and “view a work queue”); *id.* at ¶ 44 (invention “implements a [] Bayes classification methodology”); *id.* at Fig. 1 (illustrating standard computer elements). As the Examiner determined, the “entire purpose of these claims

is to provide solutions to a customer’s issue, which has no impact on the computer in any way.” Ans. 45.

Appellant also does not direct us to any evidence that claim 1 recites any unconventional rules, transforms or reduces an element to a different state or thing, or otherwise integrates the idea into a practical application. Rather, claim 1 recites troubleshooting by collecting data on “symptoms” and matching that data to “root causes,” according to algorithms not recited in the claim and only vaguely referenced in the Specification. App. Br. 48–50 (Claims App.); Spec. ¶ 44. Reciting a result-oriented solution that lacks any details as to how the computer performed the modifications is the equivalent of the words “apply it.” *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1341–42 (Fed. Cir. 2015) (citing *Elec. Power Grp., LLC, v. Alstom S.A.*, 830 F.3d 1350, 1356 (Fed. Cir. 2016) (cautioning against claims “so result focused, so functional, as to effectively cover any solution to an identified problem”)); see also *CyberSource v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) (mere data gathering does not make a claim patent-eligible). The data gathering and processing steps in claim 1 do not add meaningfully to the recited mental processes.

Finally, under Step 2B of the Guidance, we must look to whether the claims include any “additional limitation that is not well-understood, routine [or] conventional.” The “question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018); see also *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d. 1314, 1325 (Fed. Cir. 2016)

(holding that patent eligibility inquiry may contain underlying issues of fact).

Claim 1 recites a troubleshooting system facilitated by various data gathering, processing, and display steps. *See supra*. We agree with the Examiner’s finding that simply using standard computer elements (as described in the Specification, *see supra*) to implement troubleshooting is well understood, routine, and conventional. Ans. 45–46; *see supra*. Appellant asserts that the “specific manner of displaying” the information (namely, in a “plurality of distinct regions [] laid out together adjacent [to] one another”) constitutes an additional, unconventional element. Reply Br. 9. As the Examiner finds, however, establishing display “regions” and arranging such regions adjacent to one another or in any other fashion (and updating such regions) are conventional functions of the Windows operating system. *See, e.g.*, *Toastytech* 2–3; Final Act. 10. Appellant does not rebut the Examiner’s findings or identify any unconventional elements, and we discern none in the record before us.

Accordingly, we conclude that the Examiner did not err in concluding that claim 1 constitutes ineligible subject matter, and we sustain the rejection of claim 1 under 35 U.S.C. § 101. Appellant makes the same arguments regarding the remaining claims, and for the same reason, we also sustain the § 101 rejection of these claims (i.e., claims 2–11, 14, 15, 17, 28, 31, 32, and 34–39).

Rejections Under 35 U.S.C. § 103(a)

Appellant argues that the Examiner erred in combining the six references used in rejecting claim 1 as obvious, and more specifically, that the “teachings of two or more” of the references “conflict,” that the

Examiner has not provided any rationale for combining the references, and that Yutkowitz is not analogous art to the claimed invention. App. Br. 38–41; Reply 14–42. We are persuaded of error, for several reasons.

First, as Appellant argues, the Examiner’s finding that several of the references are analogous to each other, Final Act. 11–13, Ans. 54, is not sufficient to establish the references as analogous art. The Examiner finds that “the Yutkowitz and the Skaaning reference[s] are clearly analogous art, as both involve providing computer based tech support for a device.” Ans. 54. A reference qualifies as analogous art, however, “only when analogous to the *claimed invention*,” which is established if the “art is from the same field of endeavor” as the claimed invention or “is reasonably pertinent to the particular problem with which the inventor is involved.” *In re Clay*, 966 F.2d 656, 658 (Fed.Cir.1992) (emphasis added); *In re Deminski*, 796 F.2d 436, 442 (Fed.Cir.1986). The record does not reflect any finding that Yutkowitz, which is directed to a “self-calibrating [] motion control system,” is analogous to Appellant’s claimed invention directed to a “knowledge interface” or technical support. Yutkowitz Abstract, Fig. 4A.

The Examiner further finds that “Yutkowitz and Skaaning modified by Heckerman are analogous art because both involve tech support of a device.” Ans. 13. As discussed above, a finding that references are analogous to one another is not sufficient to establish a reference as analogous art. Moreover, if the Examiner intended to imply that Yutkowitz (and Skaaning) as “modified by Heckerman” would be analogous to the claimed invention, this finding also is insufficient, as the Examiner appears to conflate the rationale to combine references with the separate issue of whether each particular reference (on its own) is analogous art.

Second, we also agree with Appellant’s argument that the Examiner has not provided “articulated reasoning with some rational underpinning” to support combining all six of the references. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007); Reply Br. 32. The Examiner explains the rationale for combining several pairs of references only in conclusory fashion. *See, e.g.*, Final Act. 11 (“in the case of Skaaning, [to] allow the system to display the various information in lists in order of importance to the subject at hand”). Moreover, although the Examiner attempts to provide some rationale for combining some pairs of references, the record does not reflect a sufficient rationale for combining all six references (i.e., combining the various modifications the Examiner proposes) in the manner applied by the Examiner. *See* Reply Br. 15.

For the foregoing reasons, we do not sustain the Examiner’s obviousness rejection of independent claims 1, 18, and 35 as unpatentable over the combination of Skaaning, Rother, Heckerman, Toastytech, Spoto, and Yutkowitz. For the same reasons, we also do not sustain the obviousness rejections of the remaining dependent claims, all of which rely on the foregoing references combined with additional reference(s).

DECISION

Because we sustain at least one ground of rejection for each claim on appeal, i.e., claims 1–11, 14, 15, 17–28, 31, 32, and 34–39, we affirm the Examiner’s decision rejecting these claims.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). *See* 37 C.F.R. § 41.50(f).

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AFFIRMED